

ABSTRACT OF THE DISCLOSURE

A semiconductor device can be provided comprising a semiconductor substrate having an upper surface. A plurality of adjacent line patterns are formed on the upper surface of the semiconductor substrate. Each line pattern includes a line having a capping layer
5 pattern stacked thereon. A material layer covers the upper surface of the semiconductor substrate having the line patterns. A pad contact hole is located between the line patterns within a region of the material layer. The pad contact hole includes a lower opening between the line patterns and an upper opening located above the lower opening. A barrier layer is formed on a side wall defining the upper opening. A landing pad substantially fills the lower
10 opening and the upper opening defined by the barrier layer.